

Exemption No. 5717

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

EVERGREEN INTERNATIONAL AIRLINES, INC.

Regulatory Docket No. 27273

for an exemption from §§ 25.791(a) and (b), 25.810, 25.811, 25.812, 25.832, 25.855, 25.857, 25.1447(c)(1), and 25.1541 of the Federal Aviation Regulations

PARTIAL GRANT OF EXEMPTION

By letter dated April 20, 1993, Mr. David R. Heath, Director of Engineering, Evergreen International Airlines, Inc., 3850 Three Mile Lane, McMinnville, Oregon 97128-9496, petitioned for certain exemptions intended to allow the carriage of up to eight animal handlers (grooms) on the main deck of Boeing Model 747-100 and -200 cargo aircraft in accordance with the provisions of § 121.583.

Affected Sections of the FAR:

Section 25.791 (a) and (b) provides current construction and visibility standards for "No Smoking" and "Fasten Seat Belt" signs.

Section 25.810 provides current criteria for providing emergency escape assist means and escape routes.

Section 25.811 provides criteria for emergency exit signs, markings, and operating instructions.

Section 25.812 provides certain design and illumination criteria for emergency lighting.

Section 25.832 provides criteria for maximum cabin ozone concentrations.

Section 25.855 identifies certain requirements for each category of cargo compartment defined in § 25.857.

ANM-93-032-E

Section 25.857 defines each category of cargo compartment.

Section 25.1447(c)(1) requires, in pertinent part, that oxygen masks must be automatically deployed, immediately available to each seated occupant, and must exceed in number the quantity of seats by 10%, with the extra units distributed evenly throughout the cabin.

Section 25.1541 provides general criteria pertinent to all required placards and markings.

Related Sections of the FAR:

Section 121.285 provides requirements pertaining to the carriage of cargo in passenger compartments.

Section 121.310 requires, in pertinent part, emergency escape means in accordance with § 25.809(f)(1), certain emergency exit markings and signs, emergency lighting in accordance with § 25.812, and certain passageways and accesses to emergency exits.

Section 121.317 requires, in pertinent part, certain "No Smoking" and "Fasten Seat Belts" signs in accordance with § 25.791, and "No Smoking" placards in accordance with § 25.1541 standards.

Section 121.578 provides certain minimum cabin ozone concentration criteria, except for operations conducted in accordance with § 121.583.

Section 121.583, provides, in pertinent part, that when authorized, certain persons other than passengers may be carried aboard an airplane not in compliance with certain passenger-carrying requirements which include §§ 121.310 and 121.317.

The petitioner's supportive information is as follows:

"Introduction. Evergreen is a Supplemental Air Carrier desiring to engage in charter and wet lease operations in which large numbers of live animals are carried on the main deck of its Boeing 747-100/-200 series cargo aircraft. The current configuration of these aircraft provides for the carriage of no more than five grooms or animal handlers on the upper deck of the aircraft. Although this number of grooms is sufficient to ensure the safe handling of a limited number of livestock, Evergreen has received requests to carry as many as 87 horses on the main deck. Additional grooms are necessary to ensure the safe transport of these animals. Evergreen therefore desires to install a palletized groom station on the main deck that would be used to seat up to eight additional grooms. This would increase operational safety by giving Evergreen the capability to transport additional grooms necessary to ensure the safe transport of these animals. The pallet would also permit the grooms to be seated closer to the animals under their care. The 96-

by 125-inch pallet assembly will be located in load position 28. Position 15 and 29 will be left empty when the pallet is installed to ensure that no cargo is placed aft of the groom pallet without required restraints. The pallet, when fully occupied, will weigh 2,326 pounds (966 pounds tare and 170 pounds for each groom) and has been constructed to withstand the loads specified in § 25.561. The pallet emergency equipment would include the following emergency equipment: eight life vests, eight oxygen bottles, six single oxygen generators, nine two-person life rafts, one halon fire extinguisher, one water fire extinguisher, and one flashlight. In addition, two escape ropes approximately 28' long would be installed aft of doors 5R and 5L (which will be marked with exit and opening markings). Further, a call panel with a headset would provide communications with the flight crew. In an effort to obtain a Supplemental Type Certificate (STC), Evergreen has submitted to the Federal Aviation Administration (FAA) information detailing this proposed modification. Because the granting of an STC normally requires compliance with the applicable provisions of FAR Part 25, Evergreen has filed this petition to obtain an exemption to certain certification requirements of §§ 25.791(a) and (b), 25.810, 25.811, 25.812, 25.832, 25.855, 25.857, 25.1447(c)(1), and 25.1541. If granted, the exemption would permit Evergreen to engage in the transport of large numbers of live animals while continuing to provide the requisite number of grooms necessary to ensure their safe transport.

"Safety. Evergreen provides safe and reliable transportation of persons and cargo worldwide. Since 1978, Evergreen has conducted cargo operations pursuant to § 121.583 without injury to any persons it is authorized to carry under that section. Section 121.583 authorizes a certificate holder under Part 121 to carry certain specified persons without complying with the passenger-carrying airplane requirements in §§ 121.309(f), 121.310, 121.391, 121.571, and 121.587; the passenger-carrying operational requirements in §§ 121.157(c), 121.161, and 121.291; and the requirements pertaining to passengers in §§ 121.285, 121.313(f), 121.317, 121.547, and 121.573. Section 121.1(d) states that, "passenger carrying airplane" or "passenger carrying operation" means one carrying any person other than a person listed in § 121.583. Section 121.583(a)(4)(ii) states that § 121.583 is applicable to persons necessary for the safe handling of animals. In formulating § 121.583, the FAA recognized that the carriage of persons necessary for the safe conduct of cargo-carrying operations could be accomplished without meeting all of the operational requirements normally associated with passenger-carrying operations. Evergreen contends that the intent of this regulation is to relieve operators from the economic burden of complying with a number of specific passenger-carrying regulations when engaged in the carriage of persons necessary for the safe conduct of cargo-carrying operations. Section 121.583 is based on the original provisions of Special Civil Air Regulation 432. In the preamble to the Notice of Proposed Rulemaking (NPRM) for SR-432 (Draft Release 58-16, 58 FR 6837, September 5, 1993) the FAA stated that, "for a number of years, it has been the general practice in cargo operations to carry attendants as crewmembers... . The classification as passengers of individuals assigned such duties in connection with cargo on all cargo aircraft is believed to be unnecessary in the interest

of safety and, therefore an unreasonable burden on air carriers engaged in such operation." In 1970, when the FAA took steps to expand the types of persons who could be carried under § 121.583, it again recognized that when these categories of persons are being carried, compliance with passenger-carrying rules, "placed an unreasonable burden upon air carriers because such individuals were not intended to fall within the normally accepted category of air carrier passengers" (Notice 70-3, 35 FR 1053, January 27, 1970). It has been proven that operations conducted pursuant to § 121.583, and in accordance with the exceptions contained therein, do not result in any degradation of safety. Many of the operational requirements specified for exception in § 121.583 have corresponding certification requirements in FAR Part 25. The current rule appears to require a carrier to comply with these aircraft certification requirements even though the carrier may be engaging in an operation pursuant to § 12.583 that would waive compliance with a corresponding operational requirement. Requiring carriers to use aircraft that comply with all of the certification requirements specified in FAR Part 25 for the carriage of passengers would create a significant and unintended burden when the carrier is carrying persons pursuant to § 121.583. The resulting inconsistency would nullify the intended economic benefits of § 121.583 without providing any additional benefits to aviation safety.

"Sections 25.810, 25.811, and 25.812. Section 121.583 specifically allows an operator to carry persons necessary for the safe transport of animals without complying with the additional emergency equipment requirements of § 121.310. Evergreen asserts that §§ 25.810, 25.811, and 25.812 are underlying certification requirements that form the basis for a number of the operating requirements of § 121.310. Evergreen therefore contends that a carrier excepted from compliance with § 121.310 should not be required to comply with all of the underlying certification requirements applicable to that section. Evergreen is specifically requesting an exemption to the underlying certification requirements contained in: § 25.810, emergency egress means and escape routes; § 25.811, emergency exit markings, and; § 25.812, emergency lighting. Evergreen asserts that the exemption can be granted solely on the basis that these regulations form the underlying certification requirements for an operating regulation specifically excepted from § 121.583 (i.e., § 121.310). However, Evergreen's proposal, as specified in its application for an STC, continues to provide a level of safety equivalent to that required by these certification regulations. Section 121.310(a) requires that the assisting means for a floor level emergency exit meet the requirements of § 25.809(f)(1). Amendment 25-72 removed this requirement from § 25.809(f)(1) and incorporated it into newly created § 25.810. Section 25.810(a)(1) states that the emergency egress assist means for passengers must consist of a self-supporting slide or equivalent, and § 25.810(a)(2) requires a rope or any other means demonstrated to be suitable for that purpose for crew members. Although persons carried pursuant to § 121.583 are not specifically named as flight crew, these persons have been granted a special status similar to that of flight crew, through the enactment of § 121.583, that has been recognized by the FAA. Persons being carried under the provisions of § 121.583 are often provided

with a rope or other similar means for emergency evacuation of the aircraft. This is often the case when persons are being transported either in the immediate vicinity or within the cockpit. Evergreen intends to install two 28-foot ropes adjacent to the 5L and 5R doors, which would fully comply with § 25.810(a)(2). Evergreen's compliance with this provision provides a level of safety equivalent to that specified in § 25.810 for the grooms being transported. These individuals, as the FAA stated in its September 14, 1973, grant of Exemption No. 1870 to the Boeing company, are, "not qualified as flight crew, as that term is used in FAR Part 25, but are considered at a level of training higher than passengers." The Boeing 747 procedures manual will contain flight crew instructions on how to brief these persons before departure on the use of this emergency egress system. Section 121.310(b) requires that emergency exit markings meet the requirements of § 25.812(b), which has been incorporated into § 25.811. Evergreen again asserts that its request for exemption to § 25.811 can be granted solely on the basis that it forms one of the underlying certification requirements for an operating regulation specifically excepted for this type of operation by § 121.583. However, Evergreen's proposal also provides a level of safety equivalent to that mandated by the certification regulation. Section 121.583(c)(3) requires that the crew brief persons carried pursuant to that section on the location and operation of emergency exits. Providing instruction in the proper use of the aircraft's emergency exits in the preflight briefing, as previously mentioned, will ensure an equivalent level of safety. Section 121.310(b), (c), (d), and (h) require that the aircraft be equipped with the emergency lighting required by § 25.812. Using rationale similar to that used in requesting an exemption to §§ 25.810 and 25.811, Evergreen asserts that its request for exemption for § 25.812 can be granted solely on the basis that it forms one of the underlying certification requirements for an operating regulation specifically excepted from § 121.583. In addition, by including a flashlight for the animal handlers in the groom pallet, Evergreen will provide emergency lighting sufficient to achieve a level of safety equivalent to that specified in § 25.812.

"Sections 25.791(a) and (b) and 25.1541. Section 121.583 also permits an operator to carry animal handlers without complying with the passenger information requirements specified in § 121.317. Section 25.791 and 25.1541 are underlying certification requirements that form the basis of the operating requirements specified in § 121.317. Evergreen is specifically requesting an exemption to the underlying certification requirements contained in § 25.791(a) and (b), passenger information signs and placards; and § 25.1541, the general requirements section for placards and markings. A carrier excepted from compliance with § 121.317, when carrying persons specified under § 121.583, should not be required to comply with the underlying certification requirements of § 121.317 contained in §§ 25.791 and 25.1541. The exemption can be granted solely on the basis that §§ 25.791 and 25.1541 form the underlying certification requirements for an operating regulation (in this case § 121.317) specifically excepted by § 121.583 for this type of cargo-carrying operation. However, Evergreen's proposal continues to provide a level of safety equivalent to that required by §§ 25.791 and 25.1541. In the preflight briefing of the passengers carried out pursuant to § 121.583, the

flight crew will be required to inform these individuals of the places and times during which smoking is allowed and when seat belts must be worn. Additionally, the flight crew will have a means of constant communication with these individuals through use of a call panel adjacent to the groom pallet. Section 121.317(c) requires the posting of "No Smoking" placards that meet the requirements of § 25.1541. Evergreen's aircraft comply with the intent of the requirements of § 25.1541, and the only placards within the groom pallet will be those contained in its proposal. Evergreen requests an exemption to the general placards and markings requirement of § 25.1541 based upon its assertion that an exception from the operating requirements specified in § 121.317 is consistent with an exemption to the certification requirements contained in § 25.1541.

"Section 25.832. Section 121.578 specifies the cabin ozone concentration levels for operation of transport category airplanes. Section 121.578 specifically states that a certificate holder need not comply with its requirements if the aircraft is carrying only flight crewmembers and persons listed in § 121.583. The underlying certification requirement for § 121.578 is § 25.832. The standards contained in these two regulations have been formulated to ensure a uniform safe ozone concentration level in the aircraft despite their slightly different sampling parameters. Because § 25.832 is an underlying certification requirement for § 121.578, Evergreen contends that the intent of § 121.578 is also to not require a certificate holder to comply with the underlying certification requirements of § 25.832 when carrying persons pursuant to § 121.583.

"Section 25.1447(c)(1). As part of the groom pallet, Evergreen intends to provide individual oxygen bottles for each person carried pursuant to § 121.583. Although persons carried pursuant to § 121.583 are not specifically referred to as flight crew, the FAA recognizes these persons, through the enactment of § 121.583, have been granted a special status similar to that granted to flight crew. In instances in which these individuals are carried in or near the vicinity of the flight deck, these individuals are frequently given an oxygen mask that is not automatically presented but must be conveniently placed to be donned in the event of cabin depressurization. The individual must then ensure that the device is operational and that the flow settings are correct. Animal handlers transported in the proposed groom pallet will undertake the same actions as other individuals frequently carried pursuant to § 121.583. Prior to flight, the individuals who will be transported in the groom pallet will be instructed that, when the flight crew gives a prearranged signal, they must put on their masks. Animal handlers who are not in their seats because they are attending to the safe transport of the cargo will be required to carry a portable oxygen generator device on their person at all times. This system will provide 20 minutes of oxygen at 4 liters per minute, which should be sufficient to enable the individual to reach his or her seat and then utilize the oxygen bottle located there. The bottle system at the individual's seat will provide 2 3/4 hours of oxygen at 3 liters per minute. These procedures provide a level of safety equivalent to that provided to both the flight crew and passengers in similar operations.

"Sections 25.855 and 25.857. Currently, the main deck of Evergreen's Boeing 747 cargo aircraft is configured as a Class "E" cargo compartment and subject to the requirements of §§ 25.855 and 25.857(e). Under Evergreen's proposal, its Boeing 747 aircraft would continue to be used only for the carriage of cargo. The use of a groom pallet on the main deck during cargo operations, however, may result in a configuration not specifically addressed by §§ 25.855 and 25.857. Nevertheless, Evergreen's proposal continues to provide a level of safety that is not only equivalent but superior to the level required by §§ 25.855 and 25.857(e). Seating the grooms in this compartment would enhance the ability of the crew to detect and suppress potential fires in the cargo compartment. The grooms would also be able to give the crew immediate warning of smoke or fire using the call panel. The potential for hazards would be significantly less than what is encountered in normal passenger-carrying operations. There are many more potential sources of ignition (e.g., galleys, lavatories, and smoking passengers) in normal passenger-carrying operations than in the type of operation proposed by Evergreen. Smoke barriers are not required within passenger compartments, and in convertible aircraft operations, the smoke detection system is disarmed in the all-passenger mode. Evergreen's proposed operation would involve a lower risk of aircraft fire and increased precautions to avert a possible occurrence of fire. The grooms traveling in the compartment would immediately be able to use the aircraft's standard emergency equipment and the additional emergency equipment carried on the groom pallet. Their actions would ensure that hazardous quantities of smoke, flame, or other noxious gases are excluded from the crew compartment. As proposed by Evergreen, as many as eight additional individuals would be available for the crew to utilize in the event of fire or other emergency conditions on the aircraft. The groom's availability would relieve the crew from potentially significant fire fighting efforts and enable the crew to better concentrate their efforts on successfully diverting the aircraft to a suitable emergency landing site. Section 121.583 permits an operator to carry animal handlers without complying with the requirements pertaining to passengers specified in § 121.285, carriage of cargo in passenger compartments. Section 121.285 specifies the operating requirements that must be complied with when carrying cargo in passenger compartments, and its formulation clearly indicates that the FAA anticipated specific circumstances in which both persons and cargo would be carried within the same compartment. Section 121.583 enables operators of aircraft configured to carry cargo to be excepted from the provisions of § 121.285 when engaged in the carriage of persons pursuant to § 121.583. Sections 25.855 and 25.857 are underlying certification requirements that form the basis for the operating requirements specified in § 121.285. As a result of the relationship between these certification and operating regulations, Evergreen believes that a carrier excepted from compliance with § 121.285, when carrying persons specified under § 121.583, should therefore also be excepted from compliance with these underlying certification requirements. Evergreen therefore requests exemption from §§ 25.855 and 25.857 to the extent necessary that its proposal may be found in noncompliance with these provisions. Evergreen believes that the procedures mentioned above, the safety provisions incorporated into Evergreen's Boeing 747 cargo aircraft, and the Conditions and

Limitations set forth below in this petition will provide a level of safety equivalent to the regulations for which Evergreen is requesting an exemption.

"Public Interest. Evergreen is a major international carrier with the capability to transport large quantities of cargo worldwide. Contractual negotiations currently in progress with Qantas Airways of Australia and other major clients indicate that there is a great demand for the transport of large quantities of live animals in the Pacific, Middle East, and European markets. The FAA has recognized this need for animal handlers aboard aircraft to attend to the special requirements of live animal cargo, especially race horses. The FAA in its October 26, 1981, grant of Exemption No. 1870B to the Boeing company specifically recognized the need when it stated that, "in the carriage of animals such as race horses, there is a need for special attention in flight and at the destination." A grant of this exemption would facilitate exports of U.S. livestock, and result in the increased use of U.S. air carrier services and the export of related goods and services to those foreign markets. The inability of U.S. carriers to meet the demands of overseas customers has already caused these customers to evaluate local alternative means of transport. A grant of this exemption would enable Evergreen to penetrate these markets and use U.S. aircraft to help export U.S. livestock and transport livestock to overseas markets. This action would improve the potential for the sale of U.S. goods and services to foreign markets, thereby making a positive contribution to the U.S. balance of payments. In the absence of the requested exemptions, Evergreen would be forced to make costly and impractical modifications to its aircraft that would severely limit the company's ability to respond to the various cargo-carrying demands of the industry. Modification to Evergreen's aircraft to meet all FAR Part 25 requirements for passenger-carrying airplanes would lead to an overall increase in costs for all U.S. air cargo operations and would result in a further loss of competitiveness in the world market. Such an increase in costs would preclude Evergreen from being awarded contracts for the transport of large numbers of live animals and force prospective clients to seek other means of transporting these animals. Prospective clients may then be forced to seek non-U.S. carriers to accomplish this task at a cost greater than Evergreen's current estimate. A granting of this exemption would increase the flexibility of U.S. cargo-carrying capabilities and would provide more economical transport of large quantities of live animals. Permitting the use of the groom pallet would also serve to respond to a demonstrated public need for an increased capability to transport large quantities of live animals."

"Conditions and Limitations. By incorporating the following, Evergreen believes that the proposed exemption would provide a level of safety equivalent to that provided by current regulations:

1. Only Evergreen Boeing 747-100/-200 cargo aircraft configured as described in this exemption may carry grooms on the main deck.
2. No more than eight grooms may be carried on the groom pallet.

3. Prior to flight, a flight crewmember will give a safety briefing to each groom that will include, but not be limited to: the location and operation of emergency exits; cabin layout; smoking restrictions; unusual situations including aborted takeoff, blown tires, decompression, and cabin fires; the type of fire extinguisher appropriate to each type of fire; the location and use of emergency equipment, and; evacuation procedures.
4. The pallet emergency equipment will include at least eight life vests, eight oxygen bottles, six single oxygen generators, two nine-person life rafts, one halon fire extinguisher, one water fire extinguisher, and one flashlight.
5. Two escape ropes will be installed aft of doors 5L and 5R, and a call panel with a headset will be provided adjacent to the pallet for communication with the flight crew.
6. Individuals leaving their seats will be required to wear a portable oxygen generator device on their person at all times.
7. Evergreen must ensure that each groom is physically able to use the escape means provided.
8. Evergreen will ensure that it fully complies with § 121.583, including the development of procedures for briefing the grooms.
9. This exemption will not be effective until approval is obtained for item (8) above.

A summary of Evergreen's April 20, 1993, petition was published in the *Federal Register* on May 28, 1993 (58 FR 31063). No comments were received.

The Federal Aviation Administration's (FAA) analysis/summary is as follows:

Evergreen desires to obtain operational approval for the carriage, in cargo aircraft, of up to eight persons who are animal handlers, or grooms, to attend to the needs of live-animal cargo, pursuant to the provisions of § 121.583. Section 121.583 recognizes a "person" category of occupant as distinct from "passengers," and allows non-compliance, for operational purposes, with certain Part 121 requirements related to passenger-carrying airplanes, passenger-carrying operations, and passenger requirements.

In pursuing that approval, Evergreen has applied for an STC to modify the existing approved type design of Boeing Model 747-100 and -200 cargo aircraft into a configuration intended to accommodate the grooms. The configuration of this proposed modification, which may be found to satisfy Part 121 operational criteria relative to "persons," is acknowledged to not entirely

satisfy several Part 25 type certification requirements that address only "passengers" and "crew," not "persons."

Evergreen therefore has petitioned for exemption from certain Part 25 certification requirements, generally asserting in each case that these requirements should not be imposed when the associated Part 121 operational requirement allows non-compliance. The FAA rejects that argument on the basis that operational rules provide an authority to operate in a prescribed manner; they do not provide an authorization to modify an aircraft's approved type design. Accordingly, this petition is evaluated with reference to the passenger safety criteria of Part 25, but with due consideration given to the special status of "persons," beyond that of passengers, by virtue of certain knowledge and abilities attributed to them through compliance with the requirements of § 121.583 and any other conditions as may be imposed. The FAA has evaluated the petitioner's request to allow remotely located groom seating at the aft portion of the main cabin without benefit of immediately available flightcrew or flight attendants, and irrespective of the existing noted exemption, which allows supernumerary seating immediately behind the cockpit on the upper deck. Also, the FAA has evaluated this petition with regard only to the intended operations described, i.e., the carriage of live animals. Any contemplated operations that include the carriage of any non-live-animal cargo, either exclusively or in combination with live animals, is beyond the scope of this evaluation, and must be considered separately.

Finally, note is made of the petitioner's citation of post-Amendment 25-72 regulations, which would imply that the petitioner has elected to adopt current certification requirements for the STC, in lieu of the certification basis requirements included by reference in Boeing Type Certificate Data Sheet (TCDS) A20WE for the Model 747-100/-200 airplanes. However, since the petitioner has not specifically stated this as their intention, which would also mandate compliance with other requirements not acknowledged by the petitioner (e.g., 16g seats, etc.), the FAA considers these citations to be inadvertent errors. Consequently, the FAA's evaluation addresses the requirements appropriate to the certification basis of the Boeing Model 747-100/-200 cargo airplanes.

The FAA's evaluations, summarized below, address only the arguments in the petition relating to the regulations from which exemption is sought; they do not attempt to address other applicable requirements that may not be addressed in either this petition or the associated STC application.

Sections 25.855 and 25.857. These sections identify cargo compartment classifications and provide certain requirements for those compartments. The petitioner has identified their existing cargo compartments as Class "E," in which only cargo is permitted in accordance with § 25.857(e), and indicates that the intended scope of these requested exemptions is only as necessary to accommodate carriage of the grooms as proposed. No changes to the existing compartment are proposed other than installation of the groom pallet for the carriage of other than cargo. Even so, several arguments are presented by the petitioner which are interpreted as justifications in favor of allowing groom vigilance and abilities in fire detection/suppression to be accepted in lieu of required Class "E" equipment.

The FAA, in noting on the one hand that fire/smoke incidents tend to be precipitated by human activities, but on the other hand that their presence may also facilitate detection and suppression, considers this issue in a neutral light. In order to assure that the intended safety benefit of Class "E" compartments is maintained, while at the same time accommodating the petitioner's proposed operations, all features of the Class "E" compartments required under §§ 25.855 and 25.857 must be retained. The following additional requirements are also considered necessary:

1. Exercising the terms of this exemption for the carriage of grooms on the main deck is not authorized, except while transporting either no cargo whatsoever or with live-animal cargo exclusively.
2. In addition to the intended briefings, the grooms shall receive instruction in aircraft cabin fire-fighting techniques and the proper use of the fire-fighting equipment provided.
3. In addition to the intended briefings, the grooms shall receive instruction in the proper use of protective breathing equipment. Protective breathing equipment shall be stowed in a location immediately available to each seated groom.
4. In lieu of the intercom/buzzer/signal system of communication proposed by the petitioner, a standard aircraft-quality public address (PA)/intercom system immediately accessible to at least one groom when seated shall be provided. A PA message to the main deck from the flight deck shall be audible throughout the cabin area during all anticipated flight operations and conditions associated with the carriage of live animals. The intended briefings shall include instruction in the use of the PA/interphone system.
5. Smoking in the main deck cargo compartment, to include the grooms' pallet, shall be prohibited.

Sections 25.810, 25.811, and 25.812. These regulations (or, in the case of § 25.810, the equivalent requirement relevant to the Boeing Model 747-100/-200 certification basis) from which exemptions are sought provide many detailed requirements pertinent to emergency egress assist means and escape routes, emergency exit marking, and emergency lighting. The petitioner, by a lack of specificity, is by default requesting exemption from all of these requirements, but asserts an equivalency to these requirements solely through the accomplishment of a preflight briefing, the installation of 28-foot escape ropes at doors 5L and 5R, and the availability of a single flashlight for up to eight grooms.

The FAA acknowledges that the carriage of grooms who, unlike passengers, may be selected for physical capabilities and trained to perform certain emergency duties warrants some consideration of limited relief from selected regulations which were intended to address only

passengers. The FAA does not concur, however, that the petitioner's proposals regarding emergency marking, lighting, and egress means provide an equivalent level of safety to that afforded passengers, or even flight crewmembers, regardless of the extent of any briefings that may be intended to be provided. In view of the several interior and exterior areas pertinent to this proposal that require automatic and simultaneous illumination in an emergency, a flashlight cannot be considered to perform with any degree of equivalence, or reliability, to an emergency lighting system.

The petitioner's proposal to provide doors 5L and 5R as emergency exits is acceptable. However, the FAA does not consider the use of ropes as an acceptable means of emergency egress at this sill height for persons unaided by either flight attendants or flight crewmembers.

In lieu of the above proposals, but in addition to the proposed briefings, the FAA considers that compliance with the following pertinent certification basis requirements is appropriate to this proposal:

1. Emergency exit marker signs at doors 5L and 5R.
2. Emergency exit identifier signs (§ 25.812(e)(2), Amendment 25-58) at doors 5L and 5R.
3. Identification of door operating handle location and door opening instructions on doors 5L and 5R.
4. Identification of emergency exit means of egress and operating instructions at doors 5L and 5R.
5. All markings associated with emergency exits on the exterior of doors 5L and 5R.
6. An emergency lighting system consistent with general design and architectural parameters of § 25.812.
7. Emergency lighting illumination of the signs, identifications, and instructions specified above, the general pallet "area," the "passageways" from the pallet to each exit, and the ground area where an evacuee utilizing the means of emergency egress would make first contact with the ground.
8. An escape slide at both doors 5L and 5R, or inertia reels that allow each groom to egress from either door.

Section 25.791(a) and (b). This section is a post-Amendment 25-72 citation of the general requirement from which exemption is sought, and, as a reference to TCDS A20WE indicates, one not applicable to the affected aircraft. However, for the purposes of this petition, this error is

of limited relevance. This section requires lighted passenger information "No Smoking" and "Fasten Seat Belts" signs, switchable by the flightcrew and visible to seated passengers, to inform them when the corresponding actions are required. The petitioner asserts that an equivalent level of safety may be achieved by imparting instructions to the grooms during the preflight briefing, and providing a call panel at the palletized groom station.

The FAA does not concur. Advance knowledge gained through a preflight briefing of when actions are normally required does not also impart the knowledge of the initiation of the actual events that trigger compliance. For example, grooms may not be expected to ascertain the initiation, conclusion, or duration of a phase of flight during which smoking is prohibited and seat belts are required; nor may they be expected to anticipate turbulent conditions that warrant the use of seat belts. The FAA also does not concur that a call panel buzzer would perform an equivalent function to that of the lighted signs.

A buzzer provides a non-specific alert, the nature of which must be ascertained by subsequent voice communication. Flightcrew workload associated with conveying the required information in this manner exceeds that necessary with the switchable lighted signs. In any event, considering that grooms may be engaged in duties away from the pallet, the buzzer's location and volume may preclude prompt, appropriate, or, for that matter, any response.

The FAA considers that in lieu of what has been proposed by the petitioner, any system that provides the required "No Smoking" and "Fasten Seat Belts" message throughout the cabin, alerting all grooms simultaneously, without increasing flightcrew workload beyond that required for notifying supernumeraries seated on the upper deck, may be found to be acceptable. In view of the prohibition against smoking at any time, the lighted "No Smoking" signs should be hardwired on. As an alternative to these signs, suitable placards may be installed.

Section 25.1541. This section provides certain general requirements pertaining to all required placards and markings. The petitioner has sought exemption from this requirement relative to any "No Smoking" placards addressed by the incorrect amendment level of § 25.791, as noted above. The pertinent amendment level of § 25.791, as determined by a reference to TCDS A20WE, does not include requirements pertaining to placards. In any event, the petitioner has not identified the pallet installation as a no-smoking station for which "No Smoking" placards would be appropriate. Additionally, and more to the point, a petition for exemption from general placard criteria is neither appropriate nor required in connection with consideration of an exemption from the requirement to install any particular placard. The petition for exemption from this requirement therefore does not require a response of either grant or denial.

Section 25.832. This section identifies requirements first introduced by Amendment 25-50 relative to maximum cabin ozone concentration and, as a reference to TCDS A20WE indicates, is not applicable to the affected aircraft. The petition for exemption from this requirement therefore does not require a response of either grant or denial.

Section 25.1447(c)(1). This section identifies equipment standards for oxygen dispensing units (oxygen masks). Masks must be automatically presented and immediately available to seated occupants. The quantity of masks must exceed the number of seats by 10 percent and must be uniformly distributed throughout the cabin.

In noting the obvious differences between cabin configurations envisioned by the rule and that proposed by the petitioner, as well as the normal activities associated with passengers as compared with grooms, the FAA is primarily concerned with assuring that the grooms would be as safely provided with supplemental oxygen as passengers. To that end, comparison is made of the likely response of passengers observing the automatic presentation of masks throughout the cabin, with that of grooms who may or may not even notice or perceive the significance of an unidentified (in the petition) prearranged "signal." The FAA concludes that the proposal does not include the identification of an equivalent means to alert grooms to an oxygen emergency. Except as indicated below, the aspect of the proposal that requires grooms who leave the vicinity of the pallet-installed oxygen bottles to wear portable oxygen generator devices may be considered to provide the required equivalency to the readily available and uniformly distributed requirement, presuming these devices are shown to be equivalent to those normally installed and approved in passenger service units (PSU) in response to Part 25 requirements. The proposed quantity of six of these devices, however, is inadequate to support the eight grooms requested, all of whom may presumably be away from the pallet at any given time.

The above proposals may be otherwise acceptable, provided that:

1. The quantity of portable oxygen generator units that are provided to be worn by grooms who are away from the pallet must not be less than the number of grooms accommodated by the pallet.
2. Grooms must be able to access oxygen from either the portable units or pallet bottles without any significant delay over that experienced by passengers utilizing masks deployed from PSU's.
3. The decompression "signal" must be a dedicated one immediately recognizable to all grooms simultaneously, wherever they may be located throughout the cabin, as a signal to don oxygen masks, and must be initiated without flightcrew action by a system equivalent to that required for passengers.

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest, and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), the petition of Evergreen International Airlines to exempt them from compliance with §§ 25.791(a) and (b), 25.810, 25.811, 25.812, 25.832, 25.855, 25.857, 25.1447(c)(1), and 25.1541 of the FAR for Boeing Model 747-100/-200 cargo aircraft to

accommodate a pallet in load position 28 in the main cabin for the transport of up to eight grooms is partially granted, subject to the following conditions:

The FAA-approved Airplane Flight Manual (AFM) must contain an operating limitation restricting the carriage of occupants accommodated by this pallet to animal handlers (grooms) only who have been:

1. Designated by the operator as necessary for the safe carriage of live-animal cargo. This pallet may be similarly occupied during operations in which no cargo at all is transported, but shall not be occupied during operations in which any cargo whatsoever other than live animals is being transported;
2. Found by the operator to be willing and, in accordance with FAA-approved procedures, physically able to use the means of emergency egress provided; and
3. Instructed by the operator, in accordance with an FAA-approved training plan, in the prohibition against smoking, in procedures and equipment use relating to ditching and emergency evacuation, decompression, fire extinguishment, seat belt use, and communications with the cockpit, and briefed by a flight crewmember prior to each flight.

The pallet and other installations associated with this intended operation must be configured as defined above in the FAA evaluations of each of the petitioner's proposals.

Issued in Renton, Washington, on August 13, 1993.

/s/ Ronald T. Wojnar, Manager
Transport Airplane Directorate,
Aircraft Certification Service